**For questions concerning the content of the Annual Drinking Water Quality Report, contact Carol Hamilton, Environmental Services Manager for Salisbury-Rowan Utilities – (704) 638-5375.**

## Our Source Water comes from the Yadkin River

**El informe contiene information importante sobre la calidad del aqua en su comunidad. Leelo o llame por telefono a (704) 638-5375 para una traduccion gratis.**

Salisbury – Rowan Utilities' (SRU's) intake is located on the Rowan – Davie - Davidson County line at the confluence of the South Yadkin River and the Yadkin River. The Yadkin Pee Dee River basin, which has a watershed classification of WS-IV, is the second largest river basin in NC, covering 7,213 square miles of which 50% is forested. Rain that falls on the eastern slopes of the Blue Ridge Mountains in Caldwell, Wilkes, and Surry Counties begins the flow to Salisbury and High Rock Lake. For more information on flow of the Yadkin River, the **USGS web site is www.usgs.org.**

Everyone wants clean, safe drinking water and we assume this natural resource will always be available to us. However, surface water sources can be threatened by many potential contaminant sources, including permitted wastewater discharges, urban stormwater runoffs, or other types of non-point source contamination such as runoff produced by agricultural activities and land clearing for development. The State of North Carolina has performed source water assessments on more than 10,000 public water supply sources. The full **Source Water Assessment Plan for the City of Salisbury can be viewed at the following web site:**

**http:wse20.deh.ehnr.state.nc.us/swap/**

**The SWAP report contains maps, tables, and figures to present the SWAP results. To view or download the report, click on the "SWAP Reports" button on the lower right hand corner of the web page. To request a printed copy of the report, call (919) 715-2633 or email SWAP@ncmail.net . Please include the following information when making the request:**

**PWS System Name & Identification Number**
**Contact Name**
**Address**
**Phone Number**

The web site also includes information regarding the methods used to arrive at the susceptibility rating and an ArcIMS Geographic Information System (GIS) viewer.

The Susceptibility Rating for the Yadkin River was rated as **"Moderate".** Sources can be rated **"lower", "moderate" and "higher".** It is important to understand that a susceptibility rating of even "higher" does not imply poor water quality. Susceptibility is an indication of a water supply's potential to become contaminated by identified potential contaminant sources within the assessment area.

All sources of drinking water are subject to potential contamination by substances that are naturally occurring or man made. These substances can be microbes, inorganic or organic chemicals and radioactive substances. All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health. More information about contaminants and potential health effects can be obtained by calling the **Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.**

## Special Concerns

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

## How Your Water Treatment Plant Works

The Salisbury-Rowan Utilities Water Plant uses a conventional sedimentation process for surface water treatment. Salisbury treats an annual average of 6.5 million gallons (MG) of water per day. There is off stream storage of 28 MG if the Yadkin River should ever be unsuitable for drinking water. Alum is added to the raw water as it enters the plant to begin the coagulation process. After mixing, the water is allowed to settle for 4 hours, then it is filtered. After that chlorine, fluoride and phosphate are added and the pH is adjusted to prevent pipe corrosion in the distribution system. Solids that are removed from the raw water are eventually reapplied to farmland in Rowan County.

# Facts & Figures

Salisbury-Rowan Utilities' Water Treatment Division is required to test over 100 constituents to make sure that the water you drink is safe. We are pleased to report that for the calendar year of 2003, the water delivered to your homes and businesses complied wit all state and federal requirements. The following regulated constituents were detected in our *finished* water as analyzed between January 1 and December 31, 2003 unless otherwise noted. *Finished* water is the water that leaves our treatment plant and is distributed throughout the system to your tap.

| Constituent & Unit | MCLG | MCL | Salisbury Result | Potential Source |
|---|---|---|---|---|
| Fluoride, mg/l | 4 | 4 | 0.85 | Water additive which promotes strong teeth; erosion of natural deposits, discharge from fertilizer and aluminum factories. |
| Total Coliform Bacteria | 0 | 5% | 0 | Naturally present in the environment. All samples were negative in 2003. A chlorine residual of 0.2 mg/l is maintained in the distribution system. |
| *Beta, pCi/l | 0 | 50 | 2.7 | Decay of natural and man-made deposits. **analyzed in 2000* |
| *Lead, ug/l<br>**analyzed in 2002* | 0 | AL=15 | non-detected to 81 | Corrosion of household plumbing systems; erosion of natural deposits. 90% of the samples were below the action level of 15ug/l. |
| *Copper, mg/l<br>**analyzed in 2002* | 1.3 | AL=1.3 | non-detected to 0.551 | Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.90% were below the action level of 1.3mg/l. |

Customers were asked to sample water from a tap in their residence during the months of June, July, August and September, 2002. All samples were tested for lead and copper. Phosphate added at the water plant aids in corrosion protection of the piping to prevent the leaching of metals into the water supply.

| | | | | |
|---|---|---|---|---|
| Turbidity , NTU | n/a | TT | <0.3 | Soil runoff |

Turbidity is a measure of the clarity of the sample and is caused by suspended material measured in NTUs. Many items contribute to this measurement such as silt, algae, and tiny organisms. Turbidity is used to measure the effectiveness of the water treatment process. NC regulations require continuous measurement on each filter at the water plant. The combined turbidity of all filters must be <0.3 NTU on 95% of the required measurements for each month. During 2003 all samples taken were below 0.3 NTU, resulting in 100% compliance.

| | | | | |
|---|---|---|---|---|
| Total THMs, ug/l | 80 | 80 | 32.4 average | By-product of drinking water chlorination. Values ranged from 17 ug/l to 99 ug/l in the distribution system in 2003. |
| Total HAAs, ug/l | 60 | 60 | 38.8 average | By-product of drinking water chlorination. Values ranged from 20.1 ug/l to 59.9 ug/l in the distribution system in 2003. |
| Total TOC, mg/l | n/a | TT | 1.3 average | Naturally present in the environment. Values ranged from <1 mg/l to 1.9 mg/l. |

Total Organic Carbon (TOC) provides a medium for the formation of disinfection byproducts (DBPs) including Total Trihalomethanes (TTHMs) and Total Haloacetic Acids (HAAs). SRU, in complying with requirements of the EPA Disinfectants & Disinfection Byproducts Rule – Stage 1 performed testing on paired samples of our "source" water and finished water for % Total Organic Carbon (TOC) Removal. The Treatment Plant was able to remove between 27% and 65% with an average removal rate of 56% during the 2003 calendar year. Required removal rates on the source water alkalinity and TOC were between 35% and 45%.

# Key to Unit Abbreviations

mg/l = milligram per liter or parts per million. (One part per million or milligram per liter is like a single penny in $10,000)

ug/l = micrograms per liter or parts per billion.

pCi/l = Picocuries per liter is a measure of the radioactivity in water.

MCL = Maximum Contaminant Level: the highest level of a contaminant that is allowed in drinking water.

MCLG = Maximum Contaminant Level Goal: the level of a contaminant in drinking water below which there is no known or expected risk to health.

AL = Action Level: the concentration of a contaminant that triggers treatment or other requirements that a water system must follow. Action levels are reported at the $90^{th}$ percentile for homes at greatest risk.

TT = Treatment Technique: a required process intended to reduce the level of a contaminant in drinking water.

NTU = nephelometric turbidity units.

n/a = not applicable.

# Physical & Mineral Characteristics

**for the 2003 calendar year**

The following constituents analyzed in your water are indicators of the appearance, taste and mineral content of the drinking water delivered to your tap.

| Constituent & Unit of Measure | Annual Average |
|---|---|
| ph, standard units | 7.1 |
| Alkalinity, mg/l | 23 |
| Aluminum, mg/l | 0.003 |
| Conductivity, micromhos/cm | 90 |
| Hardness, mg/l | 23 |
| Orthophosphate, mg/l | 0.76 |
| Sodium, mg/l | 17.51 |
| Sulfate, mg/l | 18.4 |
| Temperature, degrees C | 17 |
| Iron, mg/l | 0.01 |
| Manganese, mg/l | 0.002 |

## Distribution System

Each month, the distribution system is checked for water quality compliance. Samples are checked to maintain a 0.2 mg/l chlorine residual in the system. To ensure that bacteria and other harmful organisms are removed by physical processes and disinfection chemicals and no contamination has entered the system, samples are also checked for fecal coliform. All 2003 samples met compliance and were negative for fecal coliform.

## Salisbury-Rowan Utilities (SRU) Contacts

| | | |
|---|---|---|
| SRU Administration | 1 Water Street | (704) 638-5205 |
| Plant Operations Manager | Randy Cauble | (704) 638-4478 |
| Water Plant Supervisor | Floyd Rusher | (704) 638-4480 |
| Water Quality Concerns | Water Lab | (704) 638-5372 |
| Water Bills & Service Reconnection | Customer Service | (704) 638-5300 |
| Line Leaks<br>Emergencies (after hours) | Systems Maintenance | (704) 638-5390<br>(704) 638-5339 |
| New Service Connections | Wendy Spry | (704) 638-5208 |
| Facility Tours, Civic Club &<br>Class Room Presentations | Carol Hamilton | (704) 638-5375 |

City of Salisbury website at www.salisburync.gov

# Contract Operated Systems

Salisbury–Rowan Utilities operates and monitors the County owned (ID# 01-80-753) water system on US 70. Although this water is purchased from Salisbury-Rowan Utilities, additional analysis must be performed at points within this system as well. Locations in the distribution system were tested monthly for coliform bacteria. There were "no detections" in 2003. Contaminants that were detected between January 1 and December 31, 2003 are found below:

| Constituent & Unit | MCLG | MCL | Rowan County Result | Potential Source |
|---|---|---|---|---|
| Total THM's, ug/l | 80 | 80 | 36 | By product of drinking water chlorination. |
| Lead, ug/l | 0 | AL=15 | non-detected to 6 | Corrosion of household plumbing systems; erosion of natural deposits. |
| Copper, mg/l | 1.3 | AL=1.3 | non-detected to 0.437 | Corrosion of household plumbing systems; erosion of natural deposits; Leaching from wood preservatives. |
| Total Coliform Bacteria | 0 | 1 | 0 | Naturally present in the environment. All samples were negative in 2003. |

For more information, contact Greg Greene at Rowan County Environmental Services – (704) 638-3078

The Town of East Spencer (ID# 01-80-060) also purchases water from Salisbury-Rowan Utilities. SRU operates and monitors this system as well. Locations in the distribution system were tested monthly for coliform bacteria. All results for 2003 were negative. Contaminants that were detected between January 1and December 31, 2003 are listed below:

| Constituent & Unit | MCLG | MCL | East Spencer Result | Potential Source |
|---|---|---|---|---|
| Total THM's, ug/l | 80 | 80 | 23 | By product of drinking water chlorination |
| Lead, ug/l | 0 | AL=15 | non-detected to 4 | Corrosion of household plumbing systems; erosion of natural deposits. |
| Copper, mg/l | 1.3 | AL=1.3 | non-detected to 0.145 | Corrosion of household plumbing systems; erosion of natural deposits; Leaching from wood preservatives |
| Total Coliform Bacteria | 0 | 1 | 0 | Naturally present in the environment. All samples were negative in 2003. |

For more information, contact Chris Ford, Administrator, Town of East Spencer - (704) 636-7111

# Update on Water Projects

The **South Rowan Waterline** is complete and the towns of China Grove, Landis and Kannapolis are purchasing water. This project is the result of a successful partnership between Rowan County, Salisbury, China Grove, Landis, and Kannapolis. The southern part of Rowan County now has a safe, reliable and adequate water supply alternative.

The **Rockwell Waterline** is complete. Rockwell now has a dependable supply of drinking water from Salisbury-Rowan Utilities. The increased capacity of the system allows for growth in the area and provides improved fire protection.

The **Highway 70 Waterline** from Mahaley Avenue to the Rowan County Power, LLC (RCP) Facility is complete. In addition, the SRU portion of the Salisbury-Statesville Emergency Interconnection project is complete. Once complete, the interconnection will supply up to two (2) million gallons of water per day to either municipality in the event of an emergency.

A **42-inch Raw Waterline** from the Yadkin River to the Water Treatment Plant is complete. By replacing two aging, undersized raw water lines, this project provides a greater and more reliable supply of raw water for both current and future needs.

The **Water Plant Expansion** is underway. This will increase our water plant capacity from 12 to 24 million gallons per day. The finished water pumps and clear well piping are already complete. A sand-ballasted rapid sedimentation process called *Actiflo* has been added as a pretreatment process. New Chemical Feed systems are being put into place. As a major safety improvement, Sodium Hypochlorite generation will replace the chlorine gas currently utilized to disinfect the water before it is distributed to the system.

The US 70 Annexation Area water and sewer extension project design is complete; construction is scheduled to begin this summer, and should be completed by June 30, 2005. This project will provide water and sewer service to the newest residents of the City of Salisbury in the Westcliffe and Hendrix Estates areas of Highway 70.

These projects are just a few underway at Salisbury–Rowan Utilities as we continue to grow to meet the ever-increasing needs of our customers in Rowan County. We continue to work and plan to ensure that our customers and communities will have a safe and plentiful supply of water both now and in the future!

# Salisbury-Rowan Utilities
# Annual Drinking Water Quality Report for 2003
## *Water to Power the Future of Rowan County*

## System ID# 0180010
## June 2004